In the Claims:

1. (currently amended) In an aircraft including an aircraft fuselage, and a vacuum toilet system installed in said fuselage, said vacuum toilet system including a toilet having a toilet bowl, a waste collection tank having an internal pressure below an air pressure prevailing in said toilet bowl, a waste valve connected to an outlet of said toilet bowl, and a waste pipe connecting said waste valve to said waste collection tank;

an improvement in said vacuum toilet system,

wherein

said vacuum toilet system does not include a flushing liquid storage tank, does not include a flushing liquid supply pipe, does not include a flushing liquid nozzle for directing a flushing liquid into said toilet bowl, and expressly excludes all means of supplying a flushing liquid into said toilet [[~~bowl.~~]] bowl,

said vacuum toilet system further comprises an air jet arrangement arranged and adapted to direct an airstream downwardly along an interior surface of said toilet bowl toward said outlet,

said toilet bowl comprises a structural substrate and a nanocoating provided on said structural substrate to form said interior surface of said toilet bowl, and

said nanocoating is a thin film that has a thickness less than 10 nanometers and that is highly ordered and waste material repellent as formed by a nanotechnology process.

Claim **2** (canceled).

3. (currently amended) The toilet system in the aircraft according to ~~claim 2,~~ claim 1, wherein said toilet further includes a shroud surrounding and enclosing said toilet bowl, and said air jet arrangement comprises an annular air gap formed between an upper rim of said toilet bowl and an air-guiding flange rim of said shroud that extends radially inwardly over said upper rim of said toilet bowl and downwardly into said toilet bowl spaced radially inwardly from said upper rim, whereby said annular air gap directs said airstream as a sheet of air downwardly along said interior surface of said toilet bowl toward said outlet.

4. (currently amended) The toilet system in the aircraft according to claim 3, wherein said shroud encloses an air plenum ~~therein,~~ therein outwardly around said toilet bowl, and said air plenum communicates with said annular air gap.

5. (original) The toilet system in the aircraft according to claim 4, wherein said toilet further comprises a toilet lid adapted to selectively close and open a top opening of said toilet bowl, and wherein said shroud further has an air

inlet through which air is passively drawn into said air plenum and from said air plenum through said annular air gap into said toilet bowl and from said outlet of said toilet bowl through said waste valve and said waste pipe to said waste collection tank by said internal pressure in said waste collection tank being below said air pressure prevailing in said toilet bowl when said waste valve is opened and said toilet lid is closed.

6. (currently amended) The toilet system in the aircraft according to claim 4, further comprising a pressurized or driven air source connected to said air ~~plenum.~~ plenum so as to force air into said air plenum from said air source.

7. (currently amended) The toilet system in the aircraft according to ~~claim 2,~~ claim 1, wherein said air jet arrangement comprises an air nozzle arrangement configured and arranged so as to direct said airstream as a sheet of air downwardly along said interior surface of said toilet bowl toward said outlet.

8. (original) The toilet system in the aircraft according to claim 7, wherein said air nozzle arrangement comprises an annular air gap extending continuously around an inner side of an upper rim of said toilet bowl.

Claims **9 to 12** (canceled).

13. (currently amended) [[~~A~~]] An aircraft toilet system for collecting waste material including at least one of urine [[~~and feces,~~]] or feces in an aircraft, said system comprising:

a toilet bowl with a bowl outlet and a first waste-contacting surface that is at least a portion of an inner bowl surface of said toilet bowl adapted to come into contact with the waste material;

a waste discharge arrangement that is adapted to convey the waste material from said toilet bowl, and that includes a waste pipe connected to said bowl outlet and adapted to convey the waste material therethrough, a waste collection tank connected to said bowl outlet by said waste pipe and adapted to receive and collect the waste material therein, and a waste suction valve connected and interposed in said waste pipe between said bowl outlet and said waste collection tank, wherein at least one of said waste pipe, said waste collection tank [[~~and~~]] or said waste suction valve has a second waste-contacting surface adapted to come into contact with the waste material; and

a suction source connected to said waste discharge arrangement and adapted to induce a suction airflow that flows into said toilet bowl from an outside space outside of said toilet bowl, flows along said first waste-contacting surface, and flows out of said toilet bowl through said suction valve when said suction valve is open, such that said suction airflow assists in removing the waste material from said toilet bowl;

wherein at least [[~~one of~~]] said toilet bowl and optionally said waste discharge arrangement respectively comprises a respective structural substrate and a respective nanocoating disposed directly or indirectly on said respective structural substrate so that said respective nanocoating respectively forms at least [[~~one of~~]] said first waste-contacting surface and optionally said second waste-contacting surface; [[~~and~~]]

wherein said nanocoating is a thin film having a thickness in a nanometer range, said thin film has been formed by a nanotechnology process, and said thin film has such a character so as to provide a wetting angle of 0° to 25° with respect to a droplet of the waste material, and

expressly excluding all means of supplying a flushing liquid into said toilet bowl.

14. (original) The toilet system according to claim 13, further comprising an air jet arrangement that communicates from the outside space outside of said toilet bowl into said toilet bowl and that is arranged and adapted to direct an airstream along said first waste-contacting surface.

15. (original) The toilet system according to claim 14, further comprising a shroud surrounding said toilet bowl and enclosing said outside space as an air plenum space inside said shroud, and a toilet lid adapted to selectively close and open a top opening of said toilet bowl, wherein said air jet arrangement includes at least one air nozzle that

communicates from said air plenum space into said toilet bowl and that is oriented to direct the airstream along said first waste-contacting surface.

16. (original) The toilet system according to claim 15, wherein said at least one air nozzle comprises an annular air gap extending around an inner side of an upper rim of said toilet bowl.

17. (original) The toilet system according to claim 15, arranged and adapted so that the suction airflow through said suction valve sucks the airstream from the air plenum space through said at least one air nozzle into said toilet bowl.

18. (currently amended) The toilet system according to claim 13, wherein at least one of said waste pipe, said waste valve **[[~~and~~]]** or said waste collection tank additionally respectively comprises said respective structural substrate and said respective nanocoating.

Claims **19 and 20** (canceled).

21. (currently amended) The toilet system according to claim 13, wherein said ~~nanocoating has such a character that it provides a~~ wetting angle **[[~~of~~]]** is 0° to 10° with respect to **[[~~a~~]]** the droplet of the waste material.

22. (currently amended) [[~~A~~]] An aircraft toilet system for collecting waste material including at least one of feces ~~and urine,~~ or urine in an aircraft, comprising:

a toilet bowl comprising a bowl structure substrate, a bowl outlet, and a nanocoating that is provided on at least a portion of an inner bowl surface of said bowl structure substrate and that forms a first waste-contacting surface adapted to come into contact with the waste ~~material;~~ material, wherein said nanocoating is a thin film less than 10 nm thick and has an anti-adhesion character so as to provide a wetting angle of 0° to 25° with respect to a droplet of the waste material;

a waste discharge arrangement that is adapted to convey the waste material from said toilet bowl, and that includes a waste suction valve connected to said bowl outlet, a waste pipe connected to said waste suction valve and adapted to convey the waste material therethrough, and a waste collection tank connected to said waste pipe and adapted to receive and collect the waste material therein, wherein at least one of said waste pipe, said waste collection tank [[~~and~~]] or said waste suction valve has a second waste-contacting surface adapted to come into contact with the waste material;

a suction source connected to said waste discharge arrangement and adapted to induce a suction airflow from said toilet bowl through said suction valve when said suction valve is open, such that said suction airflow

assists in removing the waste material from said toilet bowl; and

air directing means that direct at least a portion of said airflow along said first waste-contacting surface downwardly toward said bowl outlet; and

expressly excluding all means of supplying a flushing liquid into said toilet bowl.

23. (currently amended) **[[~~A~~]]** An aircraft toilet system for collecting waste material including at least one of urine **[[~~and feces,~~]]** or feces in an aircraft, said system comprising:

a toilet bowl with a bowl outlet and a first waste-contacting surface adapted to come into contact with the waste material;

a toilet lid adapted to selectively close and open a top opening of said toilet bowl;

a waste discharge arrangement that is adapted to convey the waste material from said toilet bowl, and that includes a waste pipe connected to said bowl outlet and adapted to convey the waste material therethrough, a waste collection tank connected to said bowl outlet by said waste pipe and adapted to receive and collect the waste material therein, and a waste suction valve connected and interposed in said waste pipe between said bowl outlet and said waste collection tank, wherein at least one of said waste pipe, said waste collection tank **[[~~and~~]]** or said waste suction

valve has a second waste-contacting surface adapted to come into contact with the waste material;

an air jet arrangement that communicates from an outside space outside of said toilet bowl to an interior of said toilet bowl and that includes at least one air nozzle oriented to direct an airstream along said first waste-contacting surface; and

a suction source connected to said waste discharge arrangement and adapted to induce a suction airflow, which, when said toilet lid closes said top opening of said toilet bowl, sucks said airstream into said toilet bowl from said outside space through said at least one air nozzle, so that said airstream flows along said first waste-contacting surface and flows out of said toilet bowl through said suction valve when said suction valve is open, such that said airstream assists in removing the waste material from said toilet bowl;

wherein at least one of said toilet bowl [[~~and~~]] or said waste discharge arrangement comprises a structural substrate and a nanocoating less than 10 nm thick disposed directly or indirectly on said structural substrate so that said nanocoating forms at least one of said first waste-contacting surface [[~~and~~]] or said second waste-contacting surface; and

expressly excluding all means of supplying a flushing liquid into said toilet bowl.

24. (original) The toilet system according to claim 23, wherein said at least one air nozzle comprises an annular air gap extending around an inner side of an upper rim of said toilet bowl.

[RESPONSE CONTINUES ON NEXT PAGE]